

S/078/61/006/003/007/022
B121/B208

Complexes of ...

the amount of alcohol and ether. The resultant compound is a fine-crystalline yellow powder, easily soluble in water, which in solid state partly decomposes in the air. Its solubility is 21.0 referred to uranium, and 43.2 wt% referred to the salt at 20 - 23°C. $\text{Na}_2[\text{UO}_2(\text{CO}_3)(\text{C}_2\text{O}_4)(\text{H}_2\text{O})_2] \cdot \text{H}_2\text{O}$

was obtained by slow addition of a 10% sodium carbonate solution to uranyl oxalate under thorough mixing up to a molar ratio of the components of 1:1. The compound was precipitated with a six-fold excess of alcohol. This compound is unstable when stored, and decomposes on exposure to light to give dark reaction products. $\text{K}_2[\text{UO}_2(\text{CO}_3)(\text{C}_2\text{O}_4)(\text{H}_2\text{O})_2]$ was produced in a similar

way. This compound is easily soluble in water, and gives a yellow-green solution. By determining the pH and the molecular electrical conductivity, these compounds were found to dissociate in water into 3 ions.

$\text{Ba}[\text{UO}_2(\text{CO}_3)(\text{C}_2\text{O}_4)(\text{H}_2\text{O})_2]$ was obtained by reacting $(\text{NH}_4)_2[\text{UO}_2(\text{CO}_3)(\text{C}_2\text{O}_4)(\text{H}_2\text{O})_2]$ with a barium chloride solution and by subsequent precipitation of the compound with alcohol and ether. The compound crystallizes as a fine-crystalline, light yellow powder, and is soluble in water to a very low extent. The resultant salts of diaquo-carbonato-oxalate compounds of uranyl are to

Card 2/3

S/078/61/006/003/008/022
B121/B208

AUTHORS: Chernyayev, I. I., Shchelokov, R. N.

TITLE: Complexes of aquo-fluoro-oxalate compounds of uranyl of the aquo-pentaacido series

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 3, 1961, 557-565

TEXT: The synthesis of mixed aquo-carbonato-oxalate and aquo-oxalato-sulfate complex compounds of uranyl has been described by I. I. Chernyayev and co-workers (Refs. 1-3). The present paper reports on the synthesis of mixed aquo-fluoro-oxalate complex compounds of uranyl of the aquo-pentaacido series. Complex compounds with the anion $[\text{UO}_2\text{F}_3(\text{C}_2\text{O}_4)(\text{H}_2\text{O})]^{5-}$ were found to be formed in the reaction of NaF with uranyl monooxalate at a molar ratio of the components $\text{UO}_2\text{C}_2\text{O}_4 : \text{NaF} = 1 : 1$ and $1 : 3$. The interchange of the ad-denda CO_3^{2-} , $\text{C}_2\text{O}_4^{2-}$, and F^- in complex compounds of uranyl was studied, and the displacing ability of the above-mentioned anions was found to be ar-ranged in the following order: $\text{CO}_3^{2-} \approx \text{F}^- > \text{C}_2\text{O}_4^{2-} > \text{SO}_4^{2-}$. The following com-

Card 1/4

S/078/61/006/003/008/022
B121/B208

Complexes of ...

$(\text{CN}_3\text{H}_6)_3[\text{UO}_2\text{F}(\text{C}_2\text{O}_4)_2(\text{H}_2\text{O})]$ (large prismatic crystals, stable on the air, well soluble in water), $\text{K}_3[\text{UO}_2\text{F}(\text{C}_2\text{O}_4)_2(\text{H}_2\text{O})] \cdot 2\text{H}_2\text{O}$ and $(\text{NH}_4)_3[\text{UO}_2\text{F}(\text{C}_2\text{O}_4)_2(\text{H}_2\text{O})]$.

The potassium complex was obtained by mixing the dry initial compounds $\text{UO}_2\text{C}_2\text{O}_4 \cdot 3\text{H}_2\text{O}$, $\text{K}_2\text{C}_2\text{O}_4 \cdot \text{H}_2\text{O}$, and $\text{KF} \cdot 2\text{H}_2\text{O}$ in a molar ratio of 1 : 1 : 1, by subsequent intense stirring, by extraction with water, and by crystallization in vacuo. It was washed out with water, then with alcohol and ether. The complex character of the resultant compounds was confirmed by determining the molecular electrical conductivity and the pH of the aqueous solutions. In an aqueous solution, these compounds dissociate also into four ions. The ammonium salt of fluoro-dioxalato-aquo-uranyl was obtained by reaction of ammonium fluoride with an aqueous solution of ammonium dioxalato-diaquo-uranyl, and isolated in the form of square platelets. The compound is easily soluble in water and rapidly disintegrates on exposure to air. Chemical analysis of the freshly prepared crystals gave the composition $(\text{NH}_4)_3[\text{UO}_2\text{F}(\text{C}_2\text{O}_4)_2(\text{H}_2\text{O})]$. There are 6 tables and 3 Soviet-bloc references.

✓

Card 3/4

L 13507-63 EWT(m)/BNS ESD-3 RM

ACCESSION NR: AP3003472

S/0078/63/008/007/1584/1593 56

AUTHOR: Chernyayev, I. I.; Ellert, G. V.; Shubochkin, L. K.; Shchelokov, R. N.

TITLE: Uranyl sulfato-fluoride complex compounds. 1

SOURCE: Zhurnal neorganicheskoy khimii, v. 8, no. 7, 1963, 1584-1593

TOPIC TAGS: Uranyl, uranyl sulfate, uranyl fluoride, uranyl complex

ABSTRACT: Based on coordination theory, the new compounds which are shown in the enclosure were predicted and synthesized. They are a heretofore-unknown class of uranyl sulfato-fluoride complexes. Their properties, the electric conductivity and pH of aqueous solutions in particular, were analyzed. An aqueous solution of uranyl sulfate was potentiometrically titrated with potassium fluoride, and an aqueous solution of potassium sulfate was potentiometrically titrated with uranyl fluoride. Orig. art. has: 9 figures, 10 tables, 3 equations and 13 formulas.

ASSOCIATION: Institut obschchey i neorganicheskoy khimii im. N. S. Kurnakova, Akademii nauk SSSR (Institute of general and inorganic chemistry, Academy of Sciences, SSSR).

Card 1/3

CHERNYAYEV, I.I.; SHCHELOKOV, R.N.

Complex uranyl oxalato-halo compounds of the pentaacido
series. Zhur. neorg. khim. 8 no.6:1530-1531 Je '63.
(MIRA 16:6)

I. Institut obshchey i neorganicheskoy khimii imeni Kurnakova,
AN SSSR.
(Uranyl compounds)

CHERNYAYEV, I.I.; SHCHELOKOV, R.N.

Complex hydroxy oxalates of uranyl of the pentaacido series.
Zhur. neorg. khim. 8 no.8:1990-1991 Ag '63. (MIRA 16:8)

I. Institut obshchey i neorganicheskoy khimii imeni N.S. Kurnakova
AN SSSR. (Uranyl compounds) (Oxalates)

CHERNYAYEV, I.I.; ELLERT, G.V.; SHCHELOKOV, R.N.; SHUBOCHKIN, L.K.

Interaction of carbonato and fluoro groups in the inner sphere
of uranyl complexes. Zhur. neorg. khim. 8 no.10:2232-2239 O '63.
(MIRA 16:10)

I. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova
AN SSSR.
(Uranyl compounds) (Carbonates) (Fluorides)

GOLOVNYA, V.A., doktor khim. nauk; EILERT, G.V., kand. khim. nauk;
SHUBOCHKIN, L.K., kand. khim. nauk; SHCHELOKOV, R.N., kand.
khim. nauk; TSAPKINA, I.V., kand. khim. nauk; TRAGGETH, Ye.N.,
kand. khim. nauk; LANKOV, V.P., doktor khim. nauk, [deceased];
AITKHANOVA, Z.F.; DYATKINA, M.Ye., doktor khim. nauk; MIKHAYLOV,
Yu.N.; TSAPKIN, V.V., kand. khim. nauk; BOLOTOVA, G.T., kand. khim. nauk;
CHERNYAYEV, V.A., doktor khim. nauk; KORCHEMNAYA, Ye.K., red.

[Complex compounds of uranium] Kompleksnye soedineniya urana.
Moskva, Izd-vo "Nauka," 1964. 488 p. (MIRA 17:7)

1. Akademiya nauk SSSR. Institut obshchey i neorganicheskoy
khimii. 2. Laboratoriya khimii kompleksnykh soyedineniy ak-
tiniidov Instituta obshchey i neorganicheskoy khimii AN SSSR
(for all except Korchemnaya).

YEREMEYEV, V. A., LITVIN, Yu. F.; ZHCHENKOV, R. N.

Dielectric polarization of crystal hydrates of some uranyl
compounds. Zhur. neorg. Khim. 9 no.7;1758-1859 (1964).
(ZNIR 17, 3)
Institut obshchey i neorganicheskoy khimii imeni Kurnakova
AN SSSR.

SHCHELOKOV, N.

For the working classes of Moldavia. Mest.prom. i khud.promys.
2 no.12:22-23 D '61. (MIPA 14:12)

1. Zamestitel' predsedatelya Soveta Ministrov Moldavskoy SSR.
(Moldavia---Service industries)

SHCHELOKOV, N.A.

Work practices of the veterinary specialists in Przheval'sk
District. Veterinariia 39 no.8:17-18 Ag '62.

(MIRA 17:12)

1. Glavnnyy veterinaryy vrach Przheval'skogo rayona, Kirgizskoy
SSR.

ANTONOV, V.K.; SHCHELOKOV, V.I.; SHEMYAKIN, M.M.

Synthesis of cyclodepsipeptides by inclusion of residues of
 β -hydroxy acids into the diketopiperazine ring. Izv. AN SSSR.
Otd.khim.nauk no.6:1145 Je '63. (MIRA 16:7)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Piperazine) (Acids, Organic) (Peptides)

SHEMYAKIN, M.M.; OVCHINNIKOV, Yu.A.; ANTONOV, V.K.; KIRYUSHKIN, A.A.;
IVANOV, V.T.; SHCHELOKOV, V.I.; SHKROB, A.M.

Synthesis of O,O'-diacetylserratomolide. Izv. AN SSSR.
Ser. khim. no.12:2233 D '63. (MIRA 17:1)

. 1. Institut khimii prirodnykh soyedineniy AN SSSR.

S H C H E L O K o v , U . K .

14(10); 3(5) PHASE I BOOK EXPLOITATION Sov/2343

Sovremennyye po raspolozeniyu sposobam fundamentostroyeniya na vechnomyerlyin gruntuakh

Trudy... (Transactions of the Conference on Efficient Method of Building Foundations on Permafrost Soil). Moscow: Gosstroyizdat, 1959. 131 p. Errata slip inserted. 1,200 copies printed.

Ed. of Publishing House: M. M. Boranchevskaya; Trns.: Ed.: Ye. L. Tsvetina.

PURPOSE: This book is intended for construction engineers, industrial planners and builders.

COVERAGE: This book contains reports originally read in Vorkuta in 1958 on experience gained in planning and building foundations in permafrost regions of the USSR. The reports were prepared for publication in the IITOSP (Scientific Research Institute for the Study of Foundations and Underground Structures). The introduction was written by Professor, G. Bulychev. No references are given.

Baleinik, V. P. Construction Conditions and the Exploitation of Mining Enterprises in the Pechora Coal Basin 47

Zhil'ev, A. I. Construction of Industrial Plants on Permanently Frozen Ground With Subsequent Settling 56

Martish, K. P. Designing Pile Foundations Under Permafrost Conditions 58

Pechelintsev, A. M. Special Characteristics of Foundation Building in the City of Irktsk 64

Bekalov, S. A. and V. M. Yodolazkin. Methods of Restoring The Deformed Principal Buildings in Vorkuta 67

Yefremov, K. Ya. Analysis of Work and Computing the Reinforced Concrete Frame Foundations and Frame Works Taking Into Account Uneven Settling of the Bearing Ground 75

Yefremov, V. M., and V. M. Sokolova. New Data on Frost Heaving of Foundations 100

Shishelokov, V. S. Decreasing the Depth of Foundation Laying by Keeping the Ground in a Frozen State 109

Kravchenko, I. K. Frost Heaving of Ground and Foundations (discussion) 113

Chirkatillo, A. M. Non-Soviet Experience in Building Foundations on Permanently Frozen Ground 119

Parkhomyak, D. V. Maximum Thawing of Perennially Frozen Ground Under Heated Buildings (two-dimensional solution) 124

Bukha, I. N. Settling of the Foundations of Industrial Structures of the Vorktaugol' Combine 127

AVAILABLE: Library of Congress

REF/SEARCH
1-18-60

1/

Card 4/4

KAZANSKIY, S., inzh.; SHCHELOKOV, V., inzh.

Icehouses on collective farms. Sel'. stroi. 15 no.11:26-27 N '60.
(MIRA 13:11)
(Icehouses)

SHCHELOKOV, V.

Installation of very simple storehouses made of ice. Stroitel'
8 no.2:31 F '62. (MIRA 16:2)
(Farm produce--Storage)
(Ice)

ANTONOV, V.K.; SHCHELKOV, V.I.; SHEMYAKIN, M.M.; TOVAROVA, I.I.; KISELEVA, O.A.

Selective hydrolysis of 0,0'-diacetylserratomolide and a comparison
of the synthetic and biosynthetic types of the antibiotic.
Antibiotiki 10 no.5:387-390 My '65. (MIRA 18:6)

1. Institut khimii prirodnykh soyedineniy AN SSSR, Moskva.
2. Laboratoriya khimii antibiotikov Instituta khimii prirodnykh
soyedineniy AN SSSR, Moskva (for Shemyakin). 3. Laboratoriya
vysokomolekul'stvennykh soyedineniy Instituta khimii
prirodnykh soyedineniy AN SSSR, Moskva (for Kiseleva).

ANTONOV, V.Y.; CHUPRIKOV, V.I.; SHMYAKIN, M.V.

Activation of an amide group by acylation. Part 6: Synthesis
of cyclodepsipeptides by hydroxacyetyl inclusion into cyclopeptides.
Zhur. ob. khim. 35 no. 12:2239-2246 D '65.

(MIRA 19:1)

I. Institut khimii prirodykh soyedinenii AN SSSR. Submitted
December 23, 1964.

SKREBLOV, V.P., kand. tekhn. nauk, otd. red.

[Processes of heat and mass exchange in frozen rocks]
Protsessy teplo- i massobmena v merzlykh gornykh po-
sadiakh. Moscow, Nauka, 1965. 145 p. (NIRA 18:9)

R. Akademiya nuk SSSR. Sibirskoye otdeleniye. Institut
merzlotovedeniya.

SECHELOKOV, V. K., Candidate of Tech Sci (diss) -- "Reducing the depth of foundations of buildings by regulating the temperature conditions of the foundations". Moscow, 1959. 27 pp (Acad Sci USSR, Inst of Frost Studies im V. A. Obruchev), 150 copies (IL, no 20, 1959, 114)

SHCHELOKOV, V., kand. tekhn.nauk

Constructing icehouses in permafrost. Sel'. stroi. 15 no.7:29
(EEAI 13:8)
Jl '60.
(Frozen ground) (Cold storage)

SHCHELOKOV, V. K.

Some data on the thermal effect of foundations of buildings on
underlying permafrost. Mat. k osn. uch. o merz. zon. zem. kory
no.6:51-55 '60. (MIRA 13:10)
(Foundations) (Frozen ground)

SHCHELOKOV, V.K.

Generalization of experimental data in studying the temperature field
of ground. Mat. k osn. uch. o merz. zem. kory no.6:72-86 '60.
(MIRA 13:10)

(Low temperature engineering)

PORKHAYEV, G.V.; SHCHELOKOV, V.K.

Effect of buildings on thermal and moisture conditions of permanently frozen ground. Mat. k osn. uch. o merz. zon. zem. kory
no.7:5-35 '61. (MIRA 14:7)
(Frozen ground)

SHCHELOKOV, V.K.

Effectiveness of a "cold charge" of ice storage houses. Mat.
k osn. uch. o merz. zon. zem. kory no.7:164-177 '61.
(MIRA 14:7)
(Icehouses)

SHCHELOKOV, V.K.

Sublimation during heat transfer in ice. Mat.k uch.o merz.zon.zem.-
kory no.8:53-74 '62. (MIRA 16:3)
(Sublimation (Physical sciences)) (Ice)

SHCHELOKOV, V.K.

Calculating heat insulation ob blocks of ice. Mat.k uch.o
merz.zon.zem.kory no.8:145-151 '62. (MIRA 16:3)
(Insulation (Heat)) (Ice)

SOY MELOKOV, V. K.

Freezing of thin layers of water in the process of ice formation.
Mat. kuch. o mraz. zon. zem. koly rno.0105-104 '63 (MFA 18:1)

Thermostability of ice crystallizations. Ibid. 0105-140

L 40720-65

ACCESSION NR: AP5012180

UR/0066/64/000/005/0024/0026

AUTHOR: Boyko, I. V. (Candidate of geological and mineral sciences); Shchelokov,
V. K. (Candidate of technical sciences)

12

TITLE: Icehouses equipped with mechanical cooling

B

SOURCE: Kholodil'naya tekhnika, no.5, 1964, 24-26

TOPIC TAGS: refrigeration engineering, refrigeration equipment, cryogenic engineering

ABSTRACT: The use of natural ice for refrigeration purposes is widespread in the USSR, being favored by the cold climate. Cold storage on this basis has been successful throughout the central USSR, in the case of potatoes, vegetables, fruits, berries, certain dairy products, and various salted and pickled products. However, this method is not adequate to maintain the necessary temperatures (below 0-2°) for prolonged summer storage of frozen meat, fish, butter and other basic food products; in addition, it entails sanitation difficulties, while the service life of an installation is usually no more than 20 years, and constant repairs are needed.

Card 1/3

L 40720-65

ACCESSION NR: AP5012180

Along with improvement of existing ice cold-storage plants, it was suggested that large-scale icehouses be built which will be equipped with mechanical cooling accessories. The model plant based on this principle was the one at Vorkuta, constructed on the basis of V. M. KRYLOV's system. Here, instead of dispersed ice-brine cooling, there was a single brine bath located near the entrance; through this passed the incoming air for initial cooling, after which it moved on to the functional chambers. During the summer months the air in the latter was maintained at -1° to -1.5° . One of the authors of the present article suggested the introduction of mechanical coolers for perishable foods; a plan for this innovation was worked out by "Vorkutaugol" and the plant was re-equipped accordingly. As now constituted, the Vorkuta cold-storage plant consists of an ice massif enclosing eight chambers and a wooden entrance-chamber; the earlier bath chamber now serves as additional storage space. The plant holds 150 tons. The ice massif is covered with cinders and sawdust (1.5 m). The shell of the entrance-chamber is cinder-filled; it is cooled by an ice-brine mixture. The mechanical accessories are housed in a small contiguous structure; they include an ammonia compressor (21V-15; rating 50,000 kcal/hr; 480 rpm), an element condenser 16 KE, and a vertical-pipe vaporizer, 20IA, with 20 m^2 cooling surface.

Card 2/3

L 40720-65

ACCESSION NR: AP5012180

Brine is delivered from the machine house to the refrigeration area through wood-encased pipes, further insulated by mineral wool. To avoid damage to the pipes from deformation of the ice mass, they are not attached to the walls, but to special holders frozen into the ice floor. Total cooling surface of all pipes is about 140 m². Jointless, 57 mm pipe is used; the main conduit is 85 mm.

The overhauled Vorkuta plant began operation in the summer of 1963. The mechanical cooling makes it possible to maintain a temperature of -7° to -8° within the chambers, when the outside air temperature is above 20°.

It is estimated that an ice-mechanical plant of this type costs less than a third of the investment needed for a conventional cold-storage plant. Such installations would be particularly valuable in remote agricultural districts, where they could be powered by truck or tractor motors in the absence of a central power station. Orig. art. has: 2 figures.

ASSOCIATION: Institut merzlotovedeniya im. V. A. Obrucheva (Institute of Geo-cryology)

SUBMITTED: 00

ENCL: 00

SUB CODE: IE

NO REF SOV: 000

OTHER: 000

JPRS

llc
Card 3/3

SHCHELOKOV, V.V.

Aircraft thermometer. Izv.AN SSSR.Ser.geofiz. no.5:569-576
My '56. (MLRA 9:8)

1. Akademiya nauk SSSR, Geofizicheskiy institut.
(Thermometers) (Atmospheric temperature)

SHCHELOKOV, Vasiliy Vasil'yevich; PLESHAKOV, S., otvetstvennyy red.;
RYBAL'CHEMKO, R., red.izd-va; LEBEDEV, A., tekhn.red.

[Collection of problems on accounting and operational procedures
of the State Bank of the U.S.S.R.] Sbornik zadach po uchetu i
operatsionnoi tekhnike v Gosbanke SSSR. Moskva, Gosfinizdat.
(MIRA 11:5)
1957. 198 p.
(Banks and banking--Accounting)

SHCHELOKOV, Vasiliy Vasil'yevich; PLESHAKOV, S., otv. red.; BORULYA, A.,
red. izd-va; LEBEDEV, A., tekhn. red.

[Collection of problems in accounting and operating technique in
the State Bank] Sbornik zadach po uchetu i operatsionnoi tekhnike
v Gosbanke. Izd. 2., dop. i perer. Moskva, Gosfinizdat, 1962.
199 p. (MIRA 15:6)

(Banks and banking--Accounting)

I, 17839-63

EWT(1)/BDS AFFTC/ASD/ESD-3 RB

S/0049/63/000/008/1270/1277

ACCESSION NR: AP3005589

64

59

AUTHOR: Skatskiy, V. I.; Shchelokov, V. V.

TITLE: Aircraft apparatus^{1/2} for complex measurement of meteorological^{1/2} and dynamic characteristics of the atmosphere, including clouds

SOURCE: AN SSSR. Izv. Ser. geofizicheskaya, no. 8, 1963, 1270-1277

TOPIC TAGS: meteorological sounding, meteorological instrument, thermometer, resistance thermometer, hygrometer, dew-point hygrometer, cumulus cloud, accelerograph, statoscope, oscillograph, magnetoelectric oscilloscope, galvanometer, coil galvanometer

ABSTRACT: A single complex apparatus, installed in an Il-14 aircraft,^{1/2} incorporates low-inertia ($\tau < 1$ sec) instruments which continuously record averaged temperature, temperature fluctuations, humidity, aircraft overload, airspeed, and deviation from a prescribed flight altitude; it has been used since 1961 for measuring the principal parameters of cumulus clouds.^{1/2} Most of the instruments incorporated are improved versions of earlier models. The integrated apparatus requires only two operators instead of the five previously required. The apparatus measures 107 x 68 x 117 cm; current is supplied from the aircraft electrical system.

Card 1/2

L 17839-63

ACCESSION NR: AP3005589

Individual instruments include 1) a resistance thermometer with two identical channels (measurements to an accuracy of about 0.01° with a time constant of 0.03 sec); 2) an automatic dew-point hygrometer (dew point recorded in the range from $+30$ to -20° with an error of 0.4°); 3) an accelerograph to measure aircraft overload caused by small-scale turbulence (vertical component of aircraft acceleration is recorded in the range of ± 0.8 g in the frequency range 0.2-10 cps with an error less than 5%); 4) a statoscope, operating in a range of ± 100 m; 5) an airspeed recorder (error of 2%); 6) a trap for sampling the liquid water content of clouds; 7) an 18-loop OMS-P magnetoelectric oscillograph and "Geofizika" coil galvanometers; and 8) an electronic time relay for applying time marks to the oscillograms. New circuit diagrams are included for instruments 1-3. The article was presented by L. M. Levin. "In conclusion the authors thank N. I. Vul'fson for directing the work." Orig. art. has: 7 figures.

ASSOCIATION: none

SUBMITTED: 24Sep62

DATE ACQ: 06Sep63

ENCL: 00

SUB CODE: AS

NO REP SOV: 007

OTHER: 000

Card 2/2

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001548810019-4

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001548810019-4"

the following, dated 1918, Leningrad, Russia.

mention of the number of ball mills in the planning of coal
and coke plants with industrial bunkers. Elek. sta. 34 no.12:18-
(MIRA 18:2)

SKIFOV, A.B., inzh.; MURAV'YEV, V.A., inzh.; SAMOLOKOV, Ya.M., inzh.

Experience in the conversion of boilers from operation on pul-
verized fuel to natural gas. Energetik 12 no.11:11-13 N '64
(MIRA 18:2)

SHOR, J. and CO., INC., NEW YORK, N.Y.

Conversion of pulverizer-shaft furnaces to natural gas. Gaz.
(MIRA 18:8)
from. 10 no.7;32-33 '65.

KLEYFEL'DER, E.G., inzh.; SUCHELOKOV, Ya.M., inzh.

Thermal engineering calculations for a case of simultaneous
burning of three types of fuel. Prom. energ. 20 no.11:53-57
N '65. (MIRA 18:11)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001548810019-4

KLEYNFR'L'DER, E.G., inzh.; SHCHELOKOV, Ya.M.

Nomogram for determining excessive air. Energetik 13 no.3:8-10 Mr
'65. (MIRA 18:7)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001548810019-4"

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001548810019-4

NYTSYAKO, V.I., Inzh.; SHCHEGOLEV, Ya.M., Inzh.

Measurement of the average dynamic pressure of a dusty flow.
Energetik, 13 no.4:12-14 Ap '65. (MFA 18:6)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001548810019-4"

SUTOTSKIY, G.P., kand. tekhn. nauk; SHCHELOKOV, Ya.M., inzh.

Effect of salt content of boiler water on the hydraulic resistance
of boiler stages. Elek. sta 36 no.4:24-26 Ap '65.
(MIRA 18:6)

VILINSKIY, E.E., inzh.; SHCHELOKOV, Ya.M., inzh.

Effect of the soiling of screen heating surfaces on the operation of
boilers. Elek. sta. 36 no.6;85-86 Je '65. (MIRA 18:7)

SUTOTSKIY, G.P., kand.tekhn.nauk; SHCHELOKOV, Ya.M., inzh.

Efficient burning of natural gas in industrial electric power
plants in the Urals. Prog.energ. 20 no.12:26-30 D '65.
(MIRA 18:12)

KUISHAKOVA, G.V.; MARTINSON, T.I.; SHCHELOKOVA, A.A.

Data on the biochemistry of *Polygonum divaricatum* L. and *Polygonum hissaricum* M. Pop. grown in Leningrad Province. Trudy Bot.inst.Ser. 5 no.7:284-288 '61. (MIRA 14:4)
(Leningrad Province---Knotweed)

DUDARENKO, G.V.; CHERKAS, G.P.; SHCHELOKOVA, A.V.; RUMYANTSEVA, I.V.

Effectiveness of dry antigangrenous sera in topical use under experimental conditions. Nauch. osn. proizv. bakt. prep. 10:293-301 '61. (MIRA 18:7)

1. Khar'kovskiy institut vaktsin i syvorotok im. Mechnikova.

RECORDED IN THE MURKIN, T. .)

PRINTED IN U.S.A. FOR THE NATIONAL SECURITY AGENCY BY GPO
REF ID: A65264

Print and you strike fire in citizens of the Ukraine. 1811.830-25
(NSA 1818)

DO NOT REPRODUCE OR DISTRIBUTE

POPOVSKIY, V. G.; GIDALEVICH, M. G.; DUL'NEVA, I. P.; ZASLAVSKIY, A. S.;
Prinimali uchastiyе: UL'YANKIN, M. G.; ZELENSKAYA, M. I.;
SHCHELOKOVA, I. M.; DANILOV, M. A.; SHVETS, A. T.

Improving the technology of grape juice manufacture. Trudy
MNIIPP 1:9-37 '61. (MIRA 16:1)

(Moldavia--Grape juice)

POPOVSKIY, V. G.; GIDALEVICH, M. G.; DUL'NEVA, I. P.; Prinimali
uchastiye: ZELENSKAYA, M. I.; SHCHELOKOVA, I. M.

Tartar crystallization during partial freezing of grape juice.
Trudy MNIIIPP 1:89-98 '61. (MIRA 16:1)

(Grape juice) (Crystallization)

LIPIS, B.V.; TIMOFEEVA, O.A.; SHCHELEDOVA, I.N.

Objective methods for determining the coloring of tomato paste.
Kons. i ov.prom. 18 no.10:33-35 o '63. (MIRA 16:12)

1. Moldavskiy nauchno-issledovatel'skiy institut pishchevoy pro-myshlennosti.

SHCHELOKOVA, S.S.

Relations between lactic acid bacteria and micro-organisms of
the soil and rhizosphere. Dokl.AN Uz.SSR no.5:46-49 '59.
(MIRA 12:8)

1. Institut botaniki AN UzSSR. Predstavлено акад. AN UzSSR

S.S.Kanashom.

(Lactic acid bacteria) (Soil--Bacteriology)
(Bacterial antagonism)

SHCHELOKOVA. S.S.; MUBARAKOVA, K.Yu.

Role of yeast in siloing corn. Uzb. biol. zhur. 9 no.4:16-20 '65.
(MIRA 18:10)

1. Institut botaniki AN UzSSR.

SHCHELOKOVA, S.S.

Reproduction of lactic acid bacteria in soil. Dokl. AN Uz.SSR
no.10:57-60 '59 (MIRA 13:3)

1. Institut botaniki AN UzSSR. Predstavлено академиком АН УзССР
S.S. Kanashom.
(Lactic acid bacteria)

SHELELOKOVA, S. V.

Use of radioactive phosphorus in the diagnosis of cancer of the larynx. Zdravookhranenie 5 no.2:45-48 Mr-Ap '62.
(MIRA 15:7)

1. Iz Respublikanskoy klinicheskoy bol'nitsy (glavnnyy vrach T. V. Moshnyaga), Moldavskoy SSR.

(LARYNX—CANCER) (PHOSPHORUS—ISOTOPES)

SHCHELOKOVA, T.D.

Diagnosis of malignant melanomas and their metastases with the
aid of radioactive phosphorus. Med.rad. no.9:10-13 '61.
(MIRA 15:1)

1. Iz rentgeno-terapevticheskogo otdeleniya Gosudarstvennogo
onkologicheskogo instituta imeni P.A. Gertseva.
(PHOSPHORUS--ISOTOPES) (MELANOMA)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001548810019-4

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001548810019-4"

SIMONICOVA, Z.

"Intervariety Hybridization of Corn at the Khar'kov State Selection Station." Card Agr Sci, Khar'kov Agricultural Inst, Khar'kov, 1953.
(IZhBiol, No 7, Dec 54)

Survey of Scientific and Technical Dissertations Defended at U.S.S.R.
Higher Educational Institutions (12)
SC: Sum. No. 556, 24 Jun 55

SHCHELOKOVA, Z.I.

Investigation of certain problems of fertilization in corn.
Zhur.ob.biol. 15 no.2:109-114 Mr-Ap '54. (MLRA 7:3)
(Corn (Maize))

SAC-A-100, R-2

USSR/ General Biology, Genetics.

B-5

Abs Jour: Ref. Zh.-Biol., No 9, 1957, 35194

Author : Shchelokova, Z.I., Chou Lin-kun

Inst :

Title : Concerning the Selectivity of Fertilization in Self-Pollinating
Hybrids and Varieties of Corn

Orig Pub: Agrobiologiya, 1956, No 3, 3-10

Abstract: The results of experiments on the selective fertilization of corn are given in the article. The author considers as proven that pollen, placed on the stigma 2-5 hrs. after the pollination with the maternal pollen, can take part in the fertilization and can have an influence on the attributes and properties of the newly formed embryo. They suppose that the developing zygote responds to repeated applications of pollen, deviating to the side of the type the pollen of which is being applied; sometimes

Card : 1/2

-4-

SHCHLOKOVA, Z.I.

Making use of the selectivity of fertilization in the hybridization
of corn. Izv. AN SSSR. Ser.biol. no.4;3-14 Jl-Ag '56. (MLR 9:10)
(CORN BREEDING)

SHCHEKUNOVA, Z.I.

Relation of Brandt's field mouse to experimental plague. Izv.
Irk.gos.nauch.-issl.protivochum.inst. 15:95-102 '57.

(MIRA 13:7)

(ULAN BATOR--FIELD MICE--DISEASES AND PESTS) (PLAQUE)

HCHELOKOVA, Z.I., kand.sel'skokhoz.nauk

Yield of corn seeds in relation to the time of pollination.
Agrobiologiya no.6:928-929 N-D '60. (MIRA 13:12)

1. Ukrainskiy nauchno-issledovatel'skiy institut rasteniyevodstva,
seleksii i genetiki, g. Khar'kov.
(Corn(Maize)) (Fertilization of plants)

SHCHELOLIV, A.D.

Agreement of the photoelectric hypothesis of photo-emf with
experiment. Part 2. Izv.vys.uch.zav.; fiz. no.4:41-45 '62.
(MIRA 15:9)

1. Tomskiy politekhnicheskiy institut imeni S.M. Kirova.
(Photoelectricity)

86310

S/111/60/000/C11/002/004
E019/B067

16,9500 (1031,1132,1222)

AUTHOR: Shchelovanov, L. N., Candidate of Technical Sciences

TITLE: Synchronization of the Speed of a Low-power D.C. Motor
by Means of a Thyratron

PERIODICAL: Vestnik svyazi, 1960, No. 11, pp. 7 - 8

TEXT: To synchronize a low-power d.c. motor, a disc is applied to the shaft of the motor. This disc consists of an internal metal ring with radial lamellas. These lamellas are insulated against each other and connected with the internal ring. One brush glides past one side of the disc at the internal ring, and another brush, past the front of the disc. One brush is connected to the anode of a thyratron, and the other to one end of the excitation coil of the motor. The other end of the coil is connected to the cathode of the thyratron. The control grid of the thyratron is connected to a peak transformer. In this circuit, the thyratron serves as both a measuring instrument and a control element. It constitutes a resistor connected in

Card 1/2

56310

Synchronization of the Speed of a Low-power S/111/60/000/C11/SC2-014
D. C. Motor by Means of a Thyratron B019/R067

parallel with the excitation coil which efficiency depends on the speed of the motor. If the frequency of the peak transformer and the frequency of the conducting connections between the two brushes coincide, the thyratron has an optimum resistance. There are 4 figures and 7 Soviet references.

✓X

Card 2/2

SHCHELOVANOV, L.N.

Elaboration of diagrams for electronic startstop regenerative
repeaters. Elektrosviaz' 10 no.6:40-51 Je '56. (MLRA 9:8)
(Electronic apparatus and appliances)
(Telegraph--Apparatus and supplies)

INFORMATION THEORY

"Methods of Investigating Transients in Phase-Correcting Systems Employed in the Reception of Code Combinations of Telegraph Pusses", by L.N. Shchelovanov, Elektrosvyaz, No 9, September 1957, pp 42-49.

Methods for the investigation of transients are given for open and closed pulse networks with variable pulse repetition frequencies, which are multiples of the elementary telegraph pulse. The regulation process in the phase correction system of the tuning fork of multiplex telegraph apparatus in the reception of code combinations of telegraph pulses is investigated.

Card 1/1

- 31 -

Separation of Frame Synchronisation Pulses from the Complete
Television Signal

SOV/106-59-4-2/13

Assuming that the pulse train is applied at the instant $t = 0$ and the action of the equalising pulses can be neglected, then the output voltage is found by first determining the transfer function of the network:

$$W(p) = \frac{U_{BbIX}(p)}{U_{BX}(p)} = \frac{P(p)}{Q(p)} \quad (1)$$

where $P(p)$ and $Q(p)$ are polynomials of p .
Substituting $p = q/T$, then:

$$W(q) = \frac{P(q)}{Q(q)} \quad (2)$$

The output voltage is then given by Eqs (3) or (4).
(These formulae are taken from "Transient and Steady-state
Processes in Pulse Circuits" - Tsyplkin, Ref 3)
In general, the action of the equalising pulses cannot be
Card 2/6

SOV/106-59-4-2/13

Separation of Frame Synchronisation Pulses from the Complete
Television Signal

neglected and the problem may then be stated as follows. To determine the transient process when a train of pulses of constant height is applied at the input of a four-terminal network, the pulse duration suffering a step change at some instant of time but the repetition period remaining constant. To solve this problem, the transfer function $b[n, \epsilon]$ is found by substituting $U_o = 1$ in Eqs (3) and (4), thus obtaining Eqs (6) and (7). The pulse train is then considered as the sum of three pulse trains shown in Figure 5. The first train consists of regular, unchanging pulses with a duration ratio

$\gamma_1 = \delta_1/T$ (δ denotes pulse duration, T - repetition period). At the instant $n = m$, a second pulse train cancels the pulses in the first train and, at the same instant, a third train commences, the duration ratio of which ($\gamma_2 = \delta_2/T$) differs from the duration ratio of the first train. The different transfer functions are

Card3/6

SOV/106-59-4-2/13

Separation of Frame Synchronisation Pulses from the Complete Television Signal

denoted: $b[n, \epsilon]_{\gamma_1}$, $b[n, \epsilon]_{\gamma_2}$, respectively. Then

by superposition and considering n to be large, the following formulae are obtained:

$$U_{BbIX}[K, \epsilon] = U_0 \left\{ \sum_{v=1}^l C_v \frac{1 - e^{-qv\gamma_1}}{1 - e^{-qv}} e^{qv(K+l+\epsilon)} + C_0 + \right. \\ \left. + \sum_{v=1}^l C_v \frac{1 - e^{-qv(1-\gamma_2)}}{1 - e^{-qv}} - \sum_{v=1}^l C_v \frac{1 - e^{-qv\gamma_2}}{1 - e^{-qv}} e^{qv(K+l+\epsilon)} \right\} \quad (9)$$

$0 \leq \epsilon < \gamma; \quad K=0,1,2\dots$

Card4/6

SOV/106-59-4-2/13
 Separation of Frame Synchronisation Pulses from the Complete
 Television Signal

$$\begin{aligned}
 U_{BblX}[K, \epsilon] = & U_0 \left\{ \sum_{v=1}^l C_v \frac{1-e^{-q_v \gamma_1}}{1-e^{-q_v}} e^{q_v(K+l+\epsilon)} + \sum_{v=1}^l \frac{1-e^{-q_v \gamma_2}}{1-e^{-q_v}} e^{q_v \epsilon} - \right. \\
 & \left. - \sum_{v=1}^l C_v \frac{1-e^{-q_v \gamma_2}}{1-e^{-q_v}} e^{q_v(K+l+\epsilon)} \right\} \quad (10) \\
 & \gamma \leq \epsilon < l; \quad K = 0, 1, 2, \dots
 \end{aligned}$$

where U_{BblX} is the output voltage; U_0 the pulse height in volts; $C_0 = P(0)/Q(0)$; $C_v = P(q_v)/Q'(q_v)q_v$; q_v - the pole of the transfer function.

Card5/6

SOV/106-59-4-2/13

Separation of Frame Synchronisation Pulses from the Complete
Television Signal

Using these formulae, the output voltages from single-section and double-section integrating and differentiating circuits are found for the following input voltages:
1) line synchronisation pulses; 2) equalising pulses;
3) frame synchronisation pulses.
There are 14 figures, 2 tables and 3 Soviet references.

SUBMITTED: August 21, 1958

Card 6/6

ORLOVSKIY, Ye.L.; KHALFIN, A.M.; KHAZOV, L.D.; ZAVARIN, G.D.;
KRUSSER, B.V.; SHCHELOVANOV, L.N.; TARANTSOV, A.V., red.;
KUKOLEVA, T.V., red.; SIVOV, B.V., tekhn. red.

[Theoretical principles of electrical transmission of images;
television and phototelegraphy] Teoreticheskie osnovy elektri-
cheskoi peredachi izobrazhenii; televizionie i fototelegrafiiia.
[By] E.L.Orlovskii i dr. Pod obshchei red. A.V.Tarantsova.
Moskva, Sovetskoe radio. Vols. 1 - 2. 1962. (MIL 15:1C)
(Television) (Phototelegraphy)

ORLOVSKIY, Ye.L.; MEDNIKOV, Yu.I.; KULAKOV, P.N.; SHCHELOVANOV, L.N.

Contrast sensitivity and half-tone reproduction in picture
transmitting systems. Elektrosviaz' 16 no.10:45-55 O '62.
(MIRA 15:9)

(Phototelegraphy)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001548810019-4

1. [REDACTED]

2. [REDACTED] "The problem of uniting all Indians," said Mr.
[REDACTED] "is that they are scattered throughout the country, and it is
[REDACTED] difficult to get them to work together."

3. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001548810019-4"

SHCHELOVANOV, N.M.

Development of the higher nervous function and infant training. Sovet.med.
no.4:1-5 Apr 51. (CLML 20:8)

1. Professor, Corresponding Member of the Academy of Medical Sciences
USSR.

1. SHCHELOVANOV, N. M. Prof. and AKSARINA, N. M.
2. USSR (600)
4. Infants-Care and Hygiene
7. Regimen for infants in nurseries and in infant homes. Pediatriia no. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

1. SHCHLOVANOV, N. (N.)
2. USSR 600
4. Physiologists
7. Vladimir Mikhailovich Bekhterev, Nauka i zhizn', 19, No. 12, 1952.
9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

GRASHCHENKOV, Nikolay Ivanovich; MYASISHCHEV, Vladimir Nikolayevich;
SACHELOVANOV, Nikolay Matveyevich; USPENSKAYA, N.V., red.; GUBIN, M.I.,
tekhn.red.

[V.M. Bekhterev's contribution to the study of the brain and psyche]
Vklad V.M. Bekhtereva v uchenie o mozge i psikhike. Moskva, Izd-vo
"Znanie," 1958. 37 p. (Vsesotsuznoe obshchestvo po rasprostraneniu
politicheskikh i nauchnykh znanii. Ser. 8, vyp. 1, no.8) (MIRA 11:8)
(BEKTEREV, VLADIMIR MIKHAILOVICH, 1857-1927)

SHCHELOVANOV, N.M.

"Problems of brain development and the effect on it of harmful factors."
Reviewed by N.M.Shchelovanov. Vest. AMN SSSR 16 no.6:93-94 '61.
(MIRA 15:1)

(BRAIN)

PISKUNOV, Moisey Abramovich; SHCHELOVANOV, N.M., prof., red.;
LANDAU-TYLKINA, S.P., kand. biol. nauk, red.; BUL'DYAYEV, N.A.,
tekhn. red.

[Anatomical and physiological bases for and treatment of
tongue-tie] Anatonomo-fiziologicheskie osnovy i terapii kosno-
iazychiia. Pod red. N.M.Shchelovanova. Moskva, Nedgiz, 1962.
(MIRA 15:6)
162 p.

1. Chlen-korrespondent Akademii meditsinskikh nauk SSSR (for
Shchelovanov).
(SPEECH, DISORDERS OF)

GOL'DFEL'D, A.Ya., doktor med. nauk, red.; SHCHELOVANOV, N.M., prof.,
red.; GREGORIEVA, L.V., red.; ROTANOV, Z.A., tekhn. red.

[Handbook for physicians in preschool creche-kindergarten
institutions] Rukovodstvo dlia vrachei doshkol'nykh uchrezhdenii
iasli-sad. Moskva, Medgiz, 1962. 418 p. (MIRA 15:9)

1. Chlen-korrespondent Akademii meditsinskikh nauk SSSR (for
Shchelovancov).

(PEDIATRICS)

ASKARINA, N.M.; KOSTYAKOVSKAYA, M.YU.; LADYGINA, N.F.; FIGES, N.R.;
SHCHELOVANOV, N.M.; PROKOF'EV, V.I.; ZAGOR'KIN, D.V.; etc.

(Development and application of the method of synthesis of
thiophene derivatives. A comparative study of the methods of synthesis
of thiophene derivatives. Moscow: Naukova Dumka, 1982. 182 pp.
denoted. Orenburg, 1982. 182 pp. (MIRA 18/11)

KARASIK, A.M.; KRYUKOV, S.M.; LEVIN, D.V.; SHCHELOVANOV, V.G.

Low altitude factors in aerogamma-magnetic surveying. Trudy
NIIGA 132:172-179 '62. (MIRA 16:4)
(Prospecting—Geophysical methods)

L 04305-67 ENT(1)/FCC GW
ACC NR: AR6014578

SOURCE CODE: UR/0169/65/000/011/D027/D027

AUTHORS: Karasik, A. M.; Shakhov, Yu. N.; Shchelovanov, V. G.

TITLE: Field studies of aeromagnetometers AM-13 and AMM-13 ✓

SOURCE: Ref. zh. Geofizika, Abs. 11D188

10 24 26

REF SOURCE: Sb. Geofiz. priborostr. Vyp. 21. L., Nedra, 1964, 83-100

TOPIC TAGS: aerial survey, magnetometer, magnetic effect / AM-13 magnetometer, AMM-13 magnetometer, PPM magnetometer

ABSTRACT: In the course of aeromagnetic surveying of the northern Arctic Ocean in 1963, dissimilar relative ferrosonde magnetometers were simultaneously mounted in the IL-14 airplane. The magnetometers were AM-13, AMM-13, and the proton-precessional magnetometer PPM. A simultaneous utilization of two aeromagnetometers of the same type served to increase the reliability and accuracy of magnetic field measurements and made it possible to conduct comparative studies of the instrumental errors for the instruments working under identical conditions. A substantial drift of the zero reading in both the AM-13 and the AMM-13 was noted during work conducted under arctic conditions. This was caused mainly by the influence of the temperature. Making an exact allowance for the zero drift of the magnetometers was found possible only with the use of an absolute auxiliary apparatus. A lack of uniformity in the ribbon feed

UDC: 550.838

Card 1/2

L 04305-67

ACC NR: AR6014578

of both the AM-13 and the AMM-13 was also noted. This nonuniformity may be corrected with the help of time markings produced by a chronometer. A. Lozinskaya [Translation of abstract]

SUB CODE: 08

Card 2/2

SHCHEL'ISIN, A. F., KULIK, V. G. and DYUDENKO, V. S.

"Use of novocaine blockade in surgical practice," Nauch.-prakt. raboty vyeon-vet. sluzhby,
Moscow, 1948, p. 10-25

SO: U-385), 16 June 53, (L-topis 'Zhurnal 'nykh Stav', No. 5, 1949).

SHCHELYAYEV A. V.,

Shchelyayev A. V., "To the Editors of the Journal 'Automation and Tele-mechanics,'" Avtomatika i telemekhanika, 1953, Volume XIV No 1, Pages 114-115 (A Discussion on the Theory of the Structural Relia-bility of Automatic Regulation Systems).

SHCHEMBELEV, L.S.

Glutamic acid treatment of mental retardation in children.
Pediatriia 37 no.12:39-41 D '59. (MIRA 13:5)

1. Iz kafedry nervnykh bolezney (zav. - prof. F.A. Poyemnyy)
Got'kovskogo meditsinskogo instituta (dir. - dotsent N.N.
Mizinov).

(MENTAL DEFICIENCY therapy)
(GLUTAMIC ACID)

L 14207-66 EWT(1) IJP(c) AT
ACC NR: AP6003613

SOURCE CODE: UR/0054/65/000/003/0069/0073

AUTHOR: Yeliseyenko, L. G.; Shchemelev, V. N.; Rumsh, M. A.

ORG: Leningrad State University (Leningradskiy gosudarstvennyy uni-
versitet)

TITLE: X-ray photoemission study of the passage of medium energy
electrons through materials

SOURCE: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii,
no. 3, 1965, 69-73

TOPIC TAGS: photoelectric effect, copper, aluminum, iron, nickel,
titanium, x ray emission, photoelectron, photocathode

ABSTRACT: The x-ray photoelectric yield was studied in Cu, Al, Fe,
Ni, and Ti films used as photocathodes. For Cu, Al, and Fe, thick-
ness curves representing the variation of the quantum yield coeffi-
cient χ with film thickness x were determined for various wavelengths,
and from these curves, $r = AE^n$ was determined, where r is the depth

UDC: 535.215

Card 1/2

L 14207-66
ACC NR: AP6003613

of formation of the x-ray photoelectric effect, A and n are constants dependent on the medium, and E is the electron energy. The spectral variation was determined for all five elements, and thus B and n' in the formula $1/\alpha = BE^{n'}$ (where α is a constant dependent on the medium and electron energy) could be obtained. It was found that the effective depth of formation of the x-ray photoelectric effect is less than the effective electron path. Orig. art. has: 3 figures, 2 formulas.

SUB CODE: 20/ SUBM DATE: 02Jul64/ ORIG REF: 008/ OTH REF: 001

TS
Card 2/2

S/120/60/000/005/015/051
E032/E514

AUTHORS: Rumsh, M.A., Lukirskiy, A.P., Karpovich, I.A. and
Shchemelev, V.N.

TITLE: Vacuum X-ray Monochromator for the Determination of the
Absolute Efficiencies of Radiation Detectors 19

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No.5, pp.67-73

TEXT: The monochromator described in the present paper is based on the Bragg spectrometer and hence the working wavelength range is limited on the long wavelength side at 19.3 Å when a mica crystal is employed. The absolute determination of the sensitivities of various detectors of ultra-soft X-ray radiation was described in previous papers by this group (Refs. 1 and 2). The present paper describes an extension of this work to the wavelength region 19.3-1 Å. The absolute intensities of the monochromatized beams are measured by a Geiger-counter of special design. The various characteristic X-ray lines are produced by a special demountable X-ray tube built into the monochromator. Mechanical details of the design of the monochromator are given, together with some typical results obtained for the $K_{\alpha 1,2}$ doublet of Cu. These

Card 1/2

S/120/60/000/005/015/051
E032/E514

Vacuum X-ray Monochromator for the Determination of the Absolute Efficiencies of Radiation Detectors

are shown in Fig.4. From the knowledge of the various transmission coefficients of the apparatus it was possible to measure the absolute intensity of the monochromatized beams and this in turn enabled a determination to be made of the efficiency of photomultipliers with different photocathodes as detectors of X-ray radiation. Further details will be reported in a future paper. Acknowledgments are made to A. A. Lebedev for discussions and interest. There are 4 figures and 7 references: 3 Soviet, 1 German and 3 English.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet
(Leningrad State University)

SUBMITTED: September 10, 1959

Card 2/2

Surveillance

82555

S/181/60/002/007/038/042
B006/B060

24.7.2000

AUTHORS: Zimkina, T. M., Shchemelev, V. N.

TITLE: Electron Diffraction Studies of PbS Oxidation Products

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 7, pp. 1643-1649

TEXT: Lead sulfide photoresistors are much used because of their high infrared sensitivity; the high photosensitivity is related to the insertion of oxygen into the PbS lattice. The structural modifications thus caused are studied in the present paper. It had already been established that four different phases are formed in the range $300 - 550^{\circ}\text{C}$. $\text{PbO}_4\text{PbSO}_4$ (lanarkite) prevailed below 400°C , while for the other three oxide phases space lattices were determined, which did not agree with any of the known forms $\text{Pb} - \text{S} - \text{O}$ or $\text{Pb} - \text{O}$. The oxidation products forming above 450°C have two different electron diffraction pictures which are reproduced in Figs. 1 and 2. Of the same specimen (as used for Fig. 1), Fig. 3 shows a diffraction picture obtained under different conditions, and Fig. 4 an electron diffraction picture of a PbS layer evaporated on a carbon film. An analysis of the diffraction pictures (which is discussed in great detail) yielded

Card 1/2

Electron Diffraction Studies of PbS Oxidation
Products

82553
S/181/60/002/007/038/042
B006/B060

lattice parameters which are indicative of rhombic and tetragonal structure of the oxidation products. The interplanar spacings were calculated for the tetragonal phase ($450 - 550^{\circ}\text{C}$). The results are tabulated in the table of p. 1647. The results obtained from the investigations can be summarized as follows: 1) On the oxidation of thin single crystal and polycrystalline layers in the range $400 - 550^{\circ}\text{C}$ the chemical compound $4\text{PbO} \cdot \text{PbSO}_4$ is formed. ✓
2) This compound is characterized by a tetragonal lattice with the parameters $a = 11.60 \text{ \AA}$ and $c = 7.30 \text{ \AA}$ and the interplanar spacings given in the table. 3) The existence of other phases of this compound is possible, which exhibit a higher degree of ordering as to the position of the individual molecules or structural groups and have a rhombic lattice with the parameters $a = 11.70 \text{ \AA}$, $b = 11.50 \text{ \AA}$, and $c = 7.30 \text{ \AA}$. The authors finally thank Academician A. A. Lebedev and Docent M. A. Rumsh for their interest. The work was completed at the problemnaya laboratoriya poluprovodnikov LGU im. A. A. Zhdanova (Laboratory for Semiconductor Problems of the Leningrad State University im. A. A. Zhdanov). There are 4 figures, 1 table, and 6 references: 4 Soviet and 1 US.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet
(Leningrad State University)

SUBMITTED: November 16, 1959
Card 2/2

84661

S/020/60/135/001/014/030
B006/B0569.6150
26.1512

AUTHORS:

Rumsh, M. A., Lukirskiy, A. P., and Shchemelev, V. N.

TITLE:

The Photoeffect From Metallic Cathodes in the Wavelength
Region of From 1.39 to 13.3 Å

PERIODICAL:

Doklady Akademii nauk SSSR, 1960, Vol. 135, No. 1,
pp. 55-57

TEXT: By means of a method described already earlier (Refs. 1, 2), the authors investigated the dependence of the quantum yield κ on the glancing angle θ of W-, Ni-, and Be-photocathodes in the range of 1.39-13.3 Å. It was found experimentally that the quantum yield decreases rapidly with a decrease of the glancing angle; this function may well be approximated in the case of small θ by a cosec θ function. Fig. 1 shows $\kappa \sin \theta = f(\theta)$. In the case of very small angles (up to 3°), the rapid decrease of the curves may be explained by the total reflection of X-ray radiation. All curves have a tendency toward a decrease of $\kappa \sin \theta$ with a decrease of θ of from $10 - 15^\circ$ to $2 - 3^\circ$. The effects observed may be explained by assuming that, as a result of the absorption of the radiation energy in metal,

X

Card 1/5

84661

The Photoeffect From Metallic Cathodes in the S/020/60/135/001/014/030
Wavelength Region of From 1.39 to 13.3 Å B006/B056

"free" electrons occur, which move with a velocity that is sufficient to overcome the work function. In a layer of the thickness dx , the energy $dE = I(\mu/\sin\theta)dx$ is absorbed per time unit, and leads to the occurrence of $dn = dE/\varepsilon$ "free" electrons. ($I = N_0(hc/\lambda)[1-R(\theta)] \exp(-\mu x/\sin\theta)$).

$R(\theta)$ - reflection coefficient, μ - linear attenuation factor; $I_0 = N_0 hc/\lambda$

- intensity of the incident beam, N_0 - number of the incident quanta per sec,

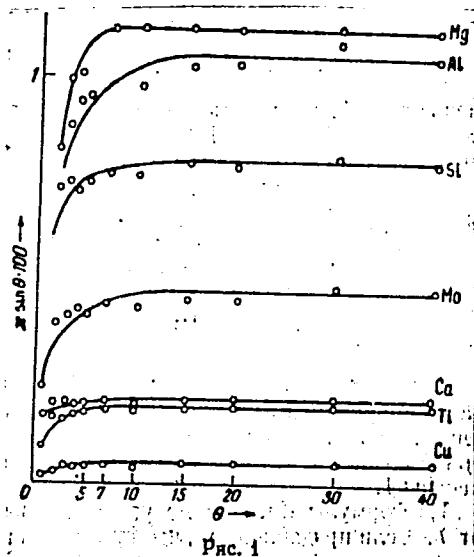
λ - wave length, ε - the energy necessary for the forming of one "free" electron. For the quantum yield the following formula is obtained:

$\kappa = \frac{hc}{\varepsilon\alpha} \frac{\mu}{\lambda} [1-R(\theta)] \operatorname{cosec}\theta \frac{\alpha}{\alpha+\mu/\sin\theta}$. For X-rays, $R(\theta) = 0$, with the exception of very small θ , where total reflection occurs. The factor $\alpha/(\alpha+\mu/\sin\theta)$ differs only little from unity. Small angles excepted, it is possible to put $\kappa = (hc/\varepsilon\alpha)(\mu/\lambda)\operatorname{cosec}\theta$; (this relation holds for $\theta \geq 10 - 15^\circ$). The numerical results of measurements are given in a table. In the spectral range investigated here, $\kappa = k\lambda^2$. Fig. 3 shows $\log \kappa = f(\log \lambda)$ (experimentally). The linear course of this function and the angle of inclination confirm the assumption made concerning the nature of the effects observed. The authors finally thank Academician

Card 2/5

84661

S/020/60/135/001/014/030
B006/B056



Card 4/5